

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

[www.gtanalytical.com](http://www.gtanalytical.com)

Company: LAMBDA ENERGY RESOURCES, LLC

Name:

ClientProj: 2018100136.01

GTA ProjNo: 010320-1

Site Addr: HAYES 22 CPF

Sampled By: BRENDAN RUPPEN/GCES

Date Rec: 1/3/2020

Time Rec: 10:30 AM

| Sample No. | Sample ID     | Date Sampled | Time Sampled | Sample Matrix |
|------------|---------------|--------------|--------------|---------------|
| 1          | RW-202        | 12/23/2019   | 1:00 PM      | WATER         |
| 2          | RW-201        | 12/23/2019   | 1:40 PM      | WATER         |
| 3          | MW-136        | 12/23/2019   | 2:10 PM      | WATER         |
| 4          | MW-133        | 12/23/2019   | 2:33 PM      | WATER         |
| 5          | MW-134        | 12/23/2019   | 3:05 PM      | WATER         |
| 6          | MW-135        | 12/23/2019   | 3:30 PM      | WATER         |
| 7          | CATHY'S HOUSE | 12/23/2019   | 4:30 PM      | WATER         |

ELECTRONIC SIGNATURE REPORT. This is a final report for the following pages of data for the samples specified above. All analysis was performed by the methods stated and all quality control measures required were completed. All quality control information is available upon request.

*Kirk Chase*

Kirk L. Chase/Chemist  
Grand Traverse Analytical  
830 Robinwood Court  
Traverse City, MI 49686  
Ph: 231-929-0905  
Fx: 231-929-0894  
SP: 231-590-0291  
[kirk@gtanalytical.com](mailto:kirk@gtanalytical.com)

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: RW-202

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 1  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 1:00 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM  
SAMPLED BY: BRENDAN RUPPEN/GCES

**EPA 8260B VOLATILE ORGANICS**

| <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date<br/>Extracted</u> | <u>Date<br/>Complete</u> | <u>Prep Method</u> |
|-----------------|----------------------|------------|--------------|----------------|---------------------------|--------------------------|--------------------|
| Benzene         | ND                   | 1.0        | ug/L (PPB)   | MR             |                           | 1/6/2020                 | EPA 5030B          |
| Toluene         | ND                   | 1.0        |              |                |                           |                          |                    |
| Ethylbenzene    | ND                   | 1.0        |              |                |                           |                          |                    |
| Xylene(Total)   | ND                   | 3.0        |              |                |                           |                          |                    |

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT &lt; LOD

LOD = LIMIT OF DETECTION



## INDEPENDENT TESTING LAB

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: RW-201

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 2  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 1:40 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM  
SAMPLED BY: BRENDAN RUPPEN/GCES

### EPA 8260B VOLATILE ORGANICS

| <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date<br/>Extracted</u> | <u>Date<br/>Complete</u> | <u>Prep Method</u> |
|-----------------|----------------------|------------|--------------|----------------|---------------------------|--------------------------|--------------------|
| Benzene         | 2.9                  | 1.0        | ug/L (PPB)   | MR             |                           | 1/6/2020                 | EPA 5030B          |
| Toluene         | ND                   | 1.0        |              |                |                           |                          |                    |
| Ethylbenzene    | ND                   | 1.0        |              |                |                           |                          |                    |
| Xylene(Total)   | ND                   | 3.0        |              |                |                           |                          |                    |

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION



## INDEPENDENT TESTING LAB

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: MW-136

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 3  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 2:10 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM  
SAMPLED BY: BRENDAN RUPPEN/GCES

### EPA 8260B VOLATILE ORGANICS

| <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date<br/>Extracted</u> | <u>Date<br/>Complete</u> | <u>Prep Method</u> |
|-----------------|----------------------|------------|--------------|----------------|---------------------------|--------------------------|--------------------|
| Benzene         | 5.3                  | 1.0        | ug/L (PPB)   | MR             |                           | 1/6/2020                 | EPA 5030B          |
| Toluene         | ND                   | 1.0        |              |                |                           |                          |                    |
| Ethylbenzene    | ND                   | 1.0        |              |                |                           |                          |                    |
| Xylene(Total)   | ND                   | 3.0        |              |                |                           |                          |                    |

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: MW-133

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 4  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 2:33 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM  
SAMPLED BY: BRENDAN RUPPEN/GCES

**EPA 8260B VOLATILE ORGANICS**

| <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u><br><u>Extracted</u> | <u>Date</u><br><u>Complete</u> | <u>Prep Method</u> |
|-----------------|----------------------|------------|--------------|----------------|---------------------------------|--------------------------------|--------------------|
| Benzene         | ND                   | 1.0        | ug/L (PPB)   | MR             |                                 | 1/6/2020                       | EPA 5030B          |
| Toluene         | ND                   | 1.0        |              |                |                                 |                                |                    |
| Ethylbenzene    | ND                   | 1.0        |              |                |                                 |                                |                    |
| Xylene(Total)   | ND                   | 3.0        |              |                |                                 |                                |                    |

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: MW-134

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 5  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 3:05 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM  
SAMPLED BY: BRENDAN RUPPEN/GCES

**EPA 8260B VOLATILE ORGANICS**

| <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u><br><u>Extracted</u> | <u>Date</u><br><u>Complete</u> | <u>Prep Method</u> |
|-----------------|----------------------|------------|--------------|----------------|---------------------------------|--------------------------------|--------------------|
| Benzene         | ND                   | 1.0        | ug/L (PPB)   | MR             |                                 | 1/6/2020                       | EPA 5030B          |
| Toluene         | ND                   | 1.0        |              |                |                                 |                                |                    |
| Ethylbenzene    | ND                   | 1.0        |              |                |                                 |                                |                    |
| Xylene(Total)   | ND                   | 3.0        |              |                |                                 |                                |                    |

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

|                |                              |                 |                     |
|----------------|------------------------------|-----------------|---------------------|
| COMPANY:       | LAMBDA ENERGY RESOURCES, LLC | GTA PROJECT NO: | 010320-1            |
| PROJECT NO:    | 2018100136.01                | GTA SAMPLE NO:  | 6                   |
| LOCATION:      | HAYES 22 CPF                 | DATE SAMPLED:   | 12/23/2019          |
|                |                              | TIME SAMPLED:   | 3:30 PM             |
|                |                              | DATE RECEIVED:  | 1/3/2020            |
|                | MI                           | TIME RECEIVED:  | 10:30 AM            |
| SAMPLE MATRIX: | WATER                        |                 |                     |
| SAMPLE ID:     | MW-135                       | SAMPLED BY:     | BRENDAN RUPPEN/GCES |

**EPA 8260B VOLATILE ORGANICS**

| <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date<br/>Extracted</u> | <u>Date<br/>Complete</u> | <u>Prep Method</u> |
|-----------------|----------------------|------------|--------------|----------------|---------------------------|--------------------------|--------------------|
| Benzene         | ND                   | 1.0        | ug/L (PPB)   | MR             |                           | 1/6/2020                 | EPA 5030B          |
| Toluene         | 18                   | 1.0        |              |                |                           |                          |                    |
| Ethylbenzene    | ND                   | 1.0        |              |                |                           |                          |                    |
| Xylene(Total)   | ND                   | 3.0        |              |                |                           |                          |                    |

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLE MATRIX: WATER  
SAMPLE ID: CATHY'S HOUSE

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 7  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 4:30 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM  
SAMPLED BY: BRENDAN RUPPEN/GCES

**EPA 8260B VOLATILE ORGANICS**

| <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u><br><u>Extracted</u> | <u>Date</u><br><u>Complete</u> | <u>Prep Method</u> |
|-----------------|----------------------|------------|--------------|----------------|---------------------------------|--------------------------------|--------------------|
| Benzene         | ND                   | 1.0        | ug/L (PPB)   | MR             |                                 | 1/6/2020                       | EPA 5030B          |
| Toluene         | ND                   | 1.0        |              |                |                                 |                                |                    |
| Ethylbenzene    | ND                   | 1.0        |              |                |                                 |                                |                    |
| Xylene(Total)   | ND                   | 3.0        |              |                |                                 |                                |                    |

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT &lt; LOD

LOD = LIMIT OF DETECTION

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLED BY: BRENDAN RUPPEN/GCES

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 1  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 1:00 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM

**SAMPLE ANALYSIS**

| <u>No:</u>         | <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u> | <u>Sample</u> |
|--------------------|-----------------|----------------------|------------|--------------|----------------|-------------|---------------|
| SAMPLE ID: RW-202  |                 |                      |            |              |                |             |               |
| CHLORIDE EPA 300.0 |                 | ND                   | 10         | mg/L (PPM)   | LV             | 1/3/2020    | WATER         |

ND = NOT DETECTED, RESULT < LOD  
LOD = LIMIT OF DETECTION  
s.u. = STANDARD pH UNITS REPORTED AT 25 C



## INDEPENDENT TESTING LAB

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLED BY: BRENDAN RUPPEN/GCES

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 2  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 1:40 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM

### SAMPLE ANALYSIS

| <u>No:</u>         | <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u> | <u>Sample</u> |
|--------------------|-----------------|----------------------|------------|--------------|----------------|-------------|---------------|
| SAMPLE ID: RW-201  |                 |                      |            |              |                |             |               |
| CHLORIDE EPA 300.0 |                 | ND                   | 10         | mg/L (PPM)   | LV             | 1/3/2020    | WATER         |

ND = NOT DETECTED, RESULT < LOD  
LOD = LIMIT OF DETECTION  
s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

PROJECT NO: 2018100136.01

LOCATION: HAYES 22 CPF

GTA PROJECT NO: 010320-1

GTA SAMPLE NO: 3

DATE SAMPLED: 12/23/2019

TIME SAMPLED: 2:10 PM

DATE RECEIVED: 1/3/2020

TIME RECEIVED: 10:30 AM

MI  
SAMPLED BY: BRENDAN RUPPEN/GCES

**SAMPLE ANALYSIS**

| <u>No:</u> | <u>Analysis</u>    | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u> | <u>Sample</u> |
|------------|--------------------|----------------------|------------|--------------|----------------|-------------|---------------|
|            | SAMPLE ID: MW-136  |                      |            |              |                |             |               |
|            | CHLORIDE EPA 300.0 | 13                   | 10         | mg/L (PPM)   | LV             | 1/3/2020    | WATER         |

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC  
PROJECT NO: 2018100136.01  
LOCATION: HAYES 22 CPF  
MI  
SAMPLED BY: BRENDAN RUPPEN/GCES

GTA PROJECT NO: 010320-1  
GTA SAMPLE NO: 4  
DATE SAMPLED: 12/23/2019  
TIME SAMPLED: 2:33 PM  
DATE RECEIVED: 1/3/2020  
TIME RECEIVED: 10:30 AM

**SAMPLE ANALYSIS**

| <u>No:</u>         | <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u> | <u>Sample</u> |
|--------------------|-----------------|----------------------|------------|--------------|----------------|-------------|---------------|
| SAMPLE ID: MW-133  |                 |                      |            |              |                |             |               |
| CHLORIDE EPA 300.0 |                 | ND                   | 10         | mg/L (PPM)   | LV             | 1/3/2020    | WATER         |

ND = NOT DETECTED, RESULT < LOD  
LOD = LIMIT OF DETECTION  
s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 010320-1

PROJECT NO: 2018100136.01

GTA SAMPLE NO: 5

LOCATION: HAYES 22 CPF

DATE SAMPLED: 12/23/2019

TIME SAMPLED: 3:05 PM

DATE RECEIVED: 1/3/2020

TIME RECEIVED: 10:30 AM

MI

SAMPLED BY: BRENDAN RUPPEN/GCES

**SAMPLE ANALYSIS**

**No: Analysis**

SAMPLE ID: MW-134

CHLORIDE EPA 300.0

**Concentration**

**LOD**

**Units**

**Analyst**

**Date**

**Sample**

ND

10

mg/L (PPM)

LV

1/3/2020

WATER

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 010320-1

PROJECT NO: 2018100136.01

GTA SAMPLE NO: 6

LOCATION: HAYES 22 CPF

DATE SAMPLED: 12/23/2019

TIME SAMPLED: 3:30 PM

DATE RECEIVED: 1/3/2020

TIME RECEIVED: 10:30 AM

MI

SAMPLED BY: BRENDAN RUPPEN/GCES

**SAMPLE ANALYSIS**

| <u>No:</u>         | <u>Analysis</u> | <u>Concentration</u> | <u>LOD</u> | <u>Units</u> | <u>Analyst</u> | <u>Date</u> | <u>Sample</u> |
|--------------------|-----------------|----------------------|------------|--------------|----------------|-------------|---------------|
| SAMPLE ID: MW-135  |                 |                      |            |              |                |             |               |
| CHLORIDE EPA 300.0 |                 | ND                   | 10         | mg/L (PPM)   | LV             | 1/3/2020    | WATER         |

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 010320-1

PROJECT NO: 2018100136.01

GTA SAMPLE NO: 7

LOCATION: HAYES 22 CPF

DATE SAMPLED: 12/23/2019

TIME SAMPLED: 4:30 PM

DATE RECEIVED: 1/3/2020

TIME RECEIVED: 10:30 AM

MI

SAMPLED BY: BRENDAN RUPPEN/GCES

**SAMPLE ANALYSIS**

**No: Analysis**

SAMPLE ID: CATHY'S HOUSE

CHLORIDE EPA 300.0

**Concentration**

ND

**LOD**

10

**Units**

mg/L (PPM)

**Analyst**

LV

**Date**

1/3/2020

**Sample**

WATER

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

